

Sinclair M^cgill

A Guide to Successful Pasture Renovation



Are you making the most of your grass?

The cost of bought-in feed, along with the general market economics which currently prevail in the UK and Ireland, make the exploitation of grazed or conserved grass an absolute priority with livestock farmers. Quite simply, grass is the cheapest source of energy for ruminant stock and those who are able to squeeze the maximum value out of each field will see the financial benefits on their bottom line.

As the title of this technical booklet suggests, the aim here is to concentrate on situations in which livestock farmers have

determined that specific grass fields are underperforming and where the way forward is clearly identified as being a 'rejuvenation/renovation' project rather than a complete reseeding operation.

The booklet will take you from the initial steps you need to take, right through to the post sowing/early establishment phase of your project. By following the advice and guidelines carefully you should be able to inject some new life into tired grass fields and all this will be achieved at a significantly lower cost than a complete reseed.



Why should you think about renovating your grass fields?

Given the right establishment of quality grass mixtures you can expect well managed leys to be very productive indeed. They should deliver abundant grazing as well as the opportunity to secure valuable silage cuts to provide high quality feed over the winter months.

However, even the best managed medium and long term leys will deteriorate over time and within 5 years it is not unusual to find the percentage of the original sown species has been reduced by as much as 50% - in some cases by even more. So, what will have appeared in place of the desirable species?

Why renovate pastures?

Why renovate pastures? All of us can readily recognise a field that is full of docks or other obvious broad-leaved weeds, but the weeds that do the most damage to your profitability are far less conspicuous. These are the weed grasses like annual meadowgrass that invade pastures and gradually replace the sown species.

This can lead to a massive reduction in yield even over a relatively short period of time; more than 5 tonnes/ha after the first year and as much as 8 tonnes/ha in 5 years!

This unwelcome invasion is not the worst of it. If you are applying expensive nitrogen fertiliser to your swards you could be wasting your money. Compared to ryegrass, Yorkshire fog will only give you a 40% yield response to nitrogen, creeping bent about 37% and rough-stalked meadow-grass a mere 20% (yield response to an increase from 50 to 150 units of N).

And that's not all. Even if your livestock eat the weed grasses, (and the chances are that they will not as they are pretty unpalatable) their digestibility is so low that very little will be converted to milk or meat.

So, are your grass swards in need of renovation? If your grass fields are achieving an annual yield of 12 tonnes of DM/ha, or more, then you are doing well. However, if your fields fall between the 5-10 tonnes DM/ha/year range then you should be considering the benefits that will follow a successful renovation programme. Fields which are currently delivering annual yields below 5 tonnes DM/ha will almost certainly need ploughing in conjunction with a full reseeding operation. It is important to remember, of course, that the actual yield of grass should be coming from a sward which has a 70% sown species cover (usually ryegrass) and if this figure is not being achieved then a renovation programme will be worthwhile.



Docks or other broad leaved weeds look very unsightly but the losses from a very heavy infestation of weed grasses could potentially be much more damaging

Assessing your pastures

Unfortunately not all worn out pastures are suitable for renovation. Our technical staff have inspected pastures that were full of matted prostrate creeping bent that would present great resistance to herbicides, and even if one could break through the mat to place the seed in soil, it would have great

difficulty competing in such adverse conditions. For this type of situation the plough is the best solution.

However, most worn out pastures can be renovated, and the means of repair can vary depending on the condition of the pasture. For example a pasture that has become thin and open, with not too many weed grasses, could be renovated simply by "roughing" up the surface with a set of harrows, spinning the seed on with a fertiliser spreader and then rolling. The majority of pastures are not that easy to deal with and require more specialised equipment to achieve successful establishment.

If you visit the 'grassright' website (www.grassright.co.uk) then you can view and download some excellent publications which will help you assess your grassland. There is a Field Inspection Report as well as a very informative 'Identifying Grasses' chart.

If you are not confident that you can assess the level of weed grasses or determine whether your field is suitable for renovation, your local Sinclair McGill seed specialist will be happy to walk your fields for you.

Preparation

Although it is often regarded as a shortcut, the same good husbandry applies to aspects of pasture renovation as it does to a full reseed. Always check the pH status and if necessary apply lime to achieve a pH of 6 - 6.5.

One critical area is soil compaction so it is well worthwhile walking the field and digging out a square clod of earth. Drop this onto the ground and vertical fissures should appear. If the ground is compacted then only horizontal fissures will be seen. In the winter months keep an eye open for especially wet areas as these could signify compaction problems.

If you have identified a compaction problem then the best option is to subsoil 50mm below the pan using a sward lifter. Working any deeper just consumes more fuel and makes the operation longer. There is some useful information about identifying types of soil pan in the Grassright booklet called the Best Practice Grassland Management.

Soil fertility should also be considered and ideally attended to well prior to pasture renovation. We don't generally recommend applying fertiliser at the time of seeding as this usually results in stimulating the existing sward to grow and out-compete the new seedlings.

Pay close attention to pest control; leatherjackets and fritfly can often build up in old pastures. Slugs will often attack new seedlings so you may consider incorporating slug pellets with the seed.

Before any renovation work begins, the existing grass should be mown or grazed tightly and trash in the seedbed minimised. A low rate of Roundup can be applied to "check" the existing sward.

The correct timing of any pasture renovation scheme is an important issue. Spring (March/April) is obviously one starting point as there should be plenty of moisture available in the soil and the promise of a reasonably long growing season to facilitate establishment. Bear in mind the other side of the coin though – if there is great pressure to provide early season grazing then this might be a conflict and if you do get a spell of low temperatures then the newly sown grass could struggle to get going.

Another window of opportunity can be provided after a silage cut when the fields should be fairly 'open'.

Ideally, the renovation should be done after the second cut of silage because the regrowth after the first cut can out compete the seedlings.

Doubtless, there will be worry in some areas about the risk of dry conditions following the renovation but you can mitigate against this factor by undertaking the renovation after a late cut of silage in July or August. Remember that if your plan calls for clover use then this species needs to be in the ground by early August.

Seeds and Seed Mixtures

Compared to a full reseed (where the only competition comes from other seedlings) the pasture renovation environment is a pretty hostile one. Rapidity of establishment and early vigour are the keys to success. We strongly recommend that a normal seed rate of about 13 kilos per acre is used – don't shortcut the shortcut! If normal ley mixtures are selected and this could be correct if the technique is being used for a full reseed, then you should always specify an establishment aiding seed treatment such as **HEADSTART®**. The seed should have had a recent germination test (within six months) and contain a high proportion of the larger seeded and more vigorous tetraploid ryegrasses. We offer a range of mixtures especially designed for pasture renovation and treated with **HEADSTART®** as detailed overleaf: -

Pasture Renovation Mixtures

Pasture Drilling Short Term Mixture (Pack size 25kg)

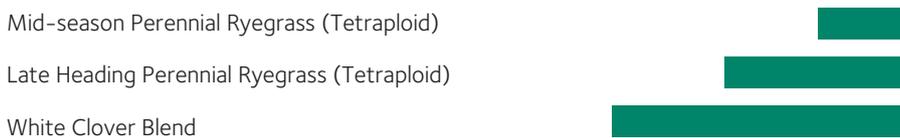
MIXTURE COMPOSITION



This mixture is designed to give your ley a massive boost in production for up to three years.

Pasture Drilling Short Term Mixture (Pack size 25kg)

MIXTURE COMPOSITION



Expect a dramatic increase in forage quality leading to higher intakes for your livestock as well as a boost to production. Tweed white clover blend contains top quality varieties giving both nutritional advantages and the benefit of "free" nitrogen.

Pasture Drilling Long Term Mixture - without Clover (Pack size 25kg)

MIXTURE COMPOSITION



Quite often clover persists in old pastures longer than grass, so this mixture gives you a very economic alternative if your existing sward has retained its valuable clover content.

White Clover Blends

White clover is very suitable for pasture renovation projects and we offer a range of three scientifically formulated blends to suit every purpose.

CloverPlus This blend is for inclusion in ley mixtures designed for beef and dairy systems. It includes varieties with a range of leaf sizes that can adapt to grazing with cattle and cutting for silage.

Cheviot A specialist blend primarily made up of very small leaved varieties with excellent persistence to stand up to the rigours of intensive and close grazing by sheep. As sheep are selective grazers, it also includes some clover with large leaves which act as a "decoy" during the establishment phase.

Tweed A highly adaptable and persistent blend, for inclusion in long term mixtures. The range of leaf sizes enables Tweed to adapt to suit all classes of livestock and most management systems.

Clover Plus Pelleted White Clover Blend

- Ideal for introducing clover into existing grass swards
- Pellet increases the size and weight of the seed enabling easier drill adjustment and more accurate distribution
- Treated with **HEADSTART®** a biological treatment proven to speed up germination and improve establishment
- Pellet improves seed flow for more even distribution when broadcast
- Suitable for broadcasting, harrows with a seed box and slot seeding

Pelleted Seed



Natural Seed

Drills and Techniques

A wide range of equipment from many different manufacturers is available for pasture renovation. The simplest, and probably cheapest, options are based on grass rakes with a seed box. These are very good tools for conditioning pastures, removing chickweed, moss and trash but as a seed drill they have their limitations. Essentially success depends on the "rake" producing a sufficiently good tilth for the seeds to root in to.

There are a number of basic techniques to consider when going for an overseeding renovation. Once the sward has been grazed down to a height of 3 or 4 cm you need to rake or harrow the field to open it up and in doing so remove as much weed grass and trash as possible out of the sward bottom. The number of passes needed to achieve the necessary conditions for a successful overseeding will vary from field to field – in a less than ideal situation you might need five or six passes. Most experts agree that you will need to aim for a 'bare soil' target of 20/25% so that the seed which is going to be applied has a fighting chance of gaining a foothold. It is important not to apply nitrogen at this early stage – you don't want the new grass to be swamped by the existing herbage.

The Opico grass harrow/air seeder combinations have shown their value in grass rejuvenation projects throughout the UK and the fact that many farm contractors now use them demonstrates their versatility. The simplicity of the operation – the seed is broadcast on the soil surface and then raked in – means that you do not get strips of new grass seedlings growing in even lines which can be a magnet for hungry sheep.

The field can be rolled after the seeding operation has taken place (using a flat roller) or as an alternative you could put sheep in the field to help trample the seed in.

The most versatile and robust tools for pasture renovation are slot seeding drills. From a seedsmans point of view we prefer the Aitchison Seedmatic because unlike many others it incorporates a



Seeds with higher vigour, seed treatments that improve establishment and specialist drills have all contributed to the success of slot seeding.

vibrating coulter that creates a tilth for the seed which is placed in the ground. However, other drills are available which in the right hands will do a perfectly good job.

By ensuring a close contact between seed and soil you will normally see a higher level of germination (and better rates of establishment) than with the overseeding method. By their nature these slot seeders are well suited for use on fields which have a

denser turf (or a thick mat of weeds) that may be difficult to open up with a surface seeder like the Opico.

It is worth mentioning that slug pellets may be of benefit when using this type of pasture renovation technique. You have to be careful that the grass seed is not drilled too deep and generally speaking the cost of using a slot seeder is greater than with a surface seeder.



This photograph highlights the vigorous root system tetraploid ryegrass (left) compared with an ordinary diploid. This is part of the reason why tetraploid varieties feature strongly in our slot seeding mixtures.



Tetraploid varieties have much larger seeds enabling them to establish and compete better when sown in existing swards.

Post Drilling Management

Ideally stock should be kept out of the field whilst the seedlings establish. This is especially important for sheep which are selective grazers and could graze out the rows of new grasses or clover before they are sufficiently well rooted.

Monitor the sward for pest attacks – it is not just your livestock that will find the new grass more palatable!

Summary

Obviously, the renovation of individual grass fields (either by overseeding or slot seeding) does not provide the ultimate 'clean' start associated with a complete ploughing and reseeding operation with a new ley mixture.

However, there will clearly be many instances when the pasture renovation option will be exactly the right approach. It may be that certain fields are just not suitable for ploughing or any types of intensive cultivation. Alternatively, it could easily be the case that a livestock farmer just cannot afford to have particular fields taken out of production for a complete reseed. In both these well recognised scenarios the way forward will be via a well-planned grass renovation programme – with the emphasis on the words 'well planned'.

Pasture renovation is also highly convenient should you wish to boost the percentage of clover in your existing leys. We are seeing more livestock farmers taking this route – not surprising when you consider the benefits linked to the enhanced feed value of the grass which is grazed or cut and the fact that you are getting 'free' nitrogen!

One overriding piece of advice, though, before you embark on a pasture renovation programme. You must make sure that you have identified (and subsequently rectified) any underlying causes of poor grass production. Typically, these might include such factors as: soil compaction; inefficient drainage; and low levels of basic nutrients (P and K) required for plant growth; or an inappropriate pH level. It is essential to correct any deficiencies like these otherwise the renovation programme will be compromised from day one and will struggle to deliver the level of performance expected.

Finally, once you have successfully revived your grass fields it is important to take the necessary steps to capture all the benefits which will accrue over time. You will need to monitor fertiliser usage carefully and match rates and timings to ensure that you are maximising the value of this expensive input. It may be necessary to review your stocking rates and it may also be appropriate to re-evaluate your current grass management system to take account of the improved pasture.

Also bear in mind that you can employ harrows or rakes at any time as 'grass conditioners'. The removal of moss and other debris from the base of the sward will stimulate ryegrass plants to tiller out and the grass will be better equipped to compete against weeds. If a vigorous clover content is important to you then do not harrow to excess as you can end up damaging the clover stolons.

Technical literature on grass and related products

We have a range of technical leaflets/booklets available which can provide you with additional information on our range of grass mixtures and complementary forage crops. Some of these can be downloaded from our website whilst others can be supplied as a hard copy if you contact us.



The **grassright** Group is a collaboration of two companies both with an interest in best practice grassland management.

This booklet (which is available free of charge) provides all grassland farmers with an opportunity to take the grassright challenge! The information provided in the publication will help you to re-direct your time and efforts to the areas of grassland

management which are most limiting to field productivity. By undertaking one, or more, actions designed to improve specific fields you will soon find the benefits becoming evident - in terms of better herbage quality or higher yields or indeed both these benefits!

Ask for a copy of this excellent booklet today - and start to make your grassland an even more valuable asset.

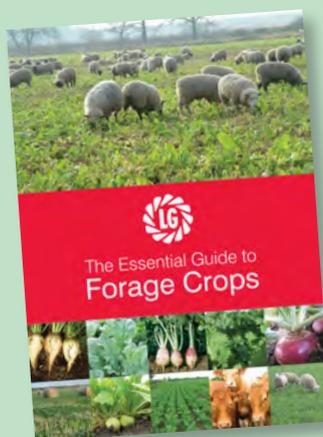


The importance of grass and clover on livestock farms



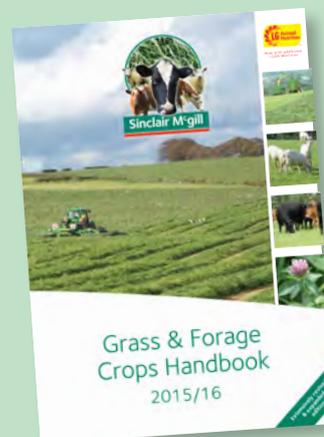
The cost of production per litre of milk or kg of liveweight gain is a major consideration for all livestock producers. One of the best ways to reduce costs is to produce more feed on the farm rather than buying it in. There is huge potential on most grassland farms in England and Wales to increase the amount and quality of the grass and clover that is grown and eaten. Over the past 12 years grass varieties on the Recommended Lists have seen average increases of 5% in yield and more than 2% in digestibility, equating to a 10% increase in animal output. Advantages:

- Very digestible, high energy feed
- Large bulk yields
- Highly palatable
- An on-farm source of protein
- Grazed grass is the cheapest feed
- Flexible cropping options i.e. grazing or produce a conserved feed



The Essential Guide to Forage Crops

This new publication contains a wealth of information about all the key forage crops which are grown in the UK.



Sinclair McGill Catalogue

Extensively revised and expanded for 2015! Now includes LGAN accredited mixtures as well as a wealth of grass knowledge.

Limagrain UK Limited, Rothwell, Market Rasen, Lincolnshire, LN7 6DT

Tel: 01472 371471

email: enquiries@limagrain.co.uk

www.limagrain.co.uk

Ref: March 2015

